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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/923,353 | 08/08/2001 | Philippe Boire | 211827USOCONT | 3554 |
| 22850 | 7590 | 11/19/2008 | | |
| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | | |
| EXAMINER | | | | |
| PIZIALI, ANDREW T | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1794 | | | | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
| 11/19/2008 | | ELECTRONIC | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

09/923,353

Applicant(s)

BOIRE ET AL.

Examiner

Andrew T. Piziali

Art Unit

1794

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/88)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 10/21/2008

DETAILED ACTION

Response to Amendment

1. The amendment filed on 10/20/2008 has been entered.

Claim Rejections - 35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 25 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 5,721,054 to Vandiest.

Vandiest discloses a coated glass glazing comprising a coating comprising titanium oxide and/or tin oxide, wherein the titanium oxide may be in the anatase crystal structure (column 2, lines 18-44, column 3, lines 19-34 and column 4, lines 14-19). Vandiest discloses that the coating thickness ranges from 35 to 90 nm (column 3, lines 17-18). Vandiest discloses that the layers of the coated substrate may be deposited by thermal decomposition, such as by chemical vapor deposition (CVD), of titanium precursors, such as a metallic halide precursors (column 5, lines 31-44 and column 7, lines 12-15).

Claim Rejections - 35 USC § 103

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 3,984,591 to Plumat in view of any one of USPN 5,721,054 to Vandiest or USPN 6,284,314 to Kato.

Plumat discloses a coated glass glazing comprising a titanium oxide coating (see entire document including column 1, lines 35-41, column 2, lines 23-32 and lines 61-67, column 3, lines 39-42 and lines 53-65, column 4, lines 33-62, column 6, lines 15-45, and column 7, lines 9-14). Plumat discloses that the film thickness ranges from some hundred to some thousand angstroms (some ten to hundred nanometers) (column 4, lines 51-62).

Plumat is silent with regards to specific titanium oxide, therefore, it would have been necessary and thus obvious to look to the prior art for conventional titanium oxide. Vandiest and Kato each provide this conventional teaching showing that it is known in the art to use anatase titanium oxide (see entire documents including column 3, lines 30-34 of Vandiest and column 3, lines 51-65 of Kato). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the titanium oxide from anatase titanium oxide motivated by the expectation of successfully practicing the invention of Plumat.

Response to Arguments

6. Applicant's arguments filed 10/20/2008 have been fully considered but they are not persuasive.

The applicant asserts that the declaration submitted on 5/22/2006 demonstrates that Vandiest does not provide a mechanically resistant and sufficiently adherent coating in order to be used as a glazing because the declaration submitted on 11/23/2005 demonstrates that the method disclosed by Vandiest does not produce the claimed photocatalytic coating. The applicant asserts that the method disclosed by Vandiest only creates a titanium oxide dust coating. The examiner respectfully disagrees.

The current claims do not exclude the photocatalytic coating from comprising titanium oxide and tin oxide. In fact, the applicant elected by original presentation (see original claim 34) the species drawn a photocatalytic layer comprising titanium oxide and at least one oxide with a lower refractive index than titanium oxide. Tin oxide has a lower refractive index than titanium oxide and Vandiest specifically discloses that the coating may comprise both titanium oxide and tin oxide (column 4, lines 14-19). The declaration filed on 11/23/2005 specifically states "I believe that, while the conditions given by Vandiest can work well with a mixture of tin tetrachloride and water, this is not the case for titanium tetrachloride and water." Therefore, it appears that the conditions given by Vandiest would work well with a mixture of tin oxide and titanium oxide because the titanium oxide particles mentioned in the declaration would be deposited along with the well formed tin oxide coating.

In response, the applicant asserts that a mixture of tin oxide and titanium oxide would also result in dust of titanium dioxide on the substrate. Applicant's argument is not persuasive because it is not supported by any evidence. Applicant's argument appears to be speculative. It is well settled that unsupported arguments are no substitute for objective evidence. In re Pearson, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974).

The applicant asserts that accumulated organic matter could not be decomposed by the titanium oxide coating layer of Vandiest because in Examples 2 and 3 the titanium oxide (non-absorbent) coating layer is buried under the Fe-Co-Cr (absorbent) coating layer. The examiner respectfully disagrees. The applicant has carefully cited only the teachings of Examples 2 and 3 of Vandiest. Although Examples 2 and 3 refer to coated substrates wherein the titanium oxide (non-absorbent) coating layer is buried under the Fe-Co-Cr (absorbent) coating layer, Vandiest clearly discloses that in a preferred embodiment the absorbent coating layer is coated directly on the substrate and the non-absorbent coating layer is an exposed coating layer (column 4, lines 19-30).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/
Primary Examiner, Art Unit 1794